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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,425	02/11/2002	Victor Grubsky	STADM-60980	5900
24201	7590	05/04/2004	EXAMINER	
FULWIDER PATTON LEE & UTECHT, LLP HOWARD HUGHES CENTER 6060 CENTER DRIVE TENTH FLOOR LOS ANGELES, CA 90045			PAK, SUNG H	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/073,425	GRUBSKY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sung H. Pak	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15, 17-19, 21-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15, 17 and 19 is/are allowed.
- 6) ☒ Claim(s) 18, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0103</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Feb. 9, 2004 has been entered.

### ***Terminal Disclaimer***

The terminal disclaimer filed on Nov. 24, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,360,038 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Allowable Subject Matter***

Claims 1-15, 17, 19 are allowed.

Claim 1 is allowed in view of the amended limitation in conjunction with the terminal disclaimer. Claims 17 and 19 are allowed in view of the terminal disclaimer.

### ***Claim Objections***

Claim 21 is objected to because of the following informalities: The claim recites "wherein the cladding of the planar optical fiber is positioned closely to the optical waveguide" (line 7-8). This recitation should be changed to "wherein the cladding of the optical fiber is

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positioned closely to the planar optical waveguide”. The change should be made in order to correct <sup>an</sup> inadvertent typographical error in the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by Vorobeichik et al (US 6,088,495).

Vorobeichik et al reference discloses an optical device with all the limitations set forth in the claims, including: an add/drop multiplexer (Fig. 4 and column 6 lines 21-24) comprising two optical fibers (Fig. 4- essentially two fibers are involved in multiplexing function and additional fibers are provided for diverting additional signals), each optical fiber having a core and a cladding layer (core “54, 64” and cladding “52, 62”), each fiber having refractive index perturbations formed therein (Fig. 3- the refractive index perturbations are induced in the fiber by using elements “58, 68” and inducing stress to the fibers; column 5 lines 62-67); the fibers are positioned close together but without overlapping the perturbations of the fiber (perturbations are not overlapped since elements “58, 68” individually induce perturbations in respective fibers “50, 60”) to allow coupling between the cladding of the two fibers (abstract).

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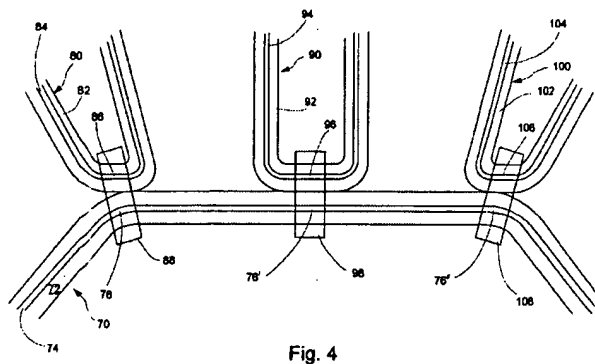


Fig. 4

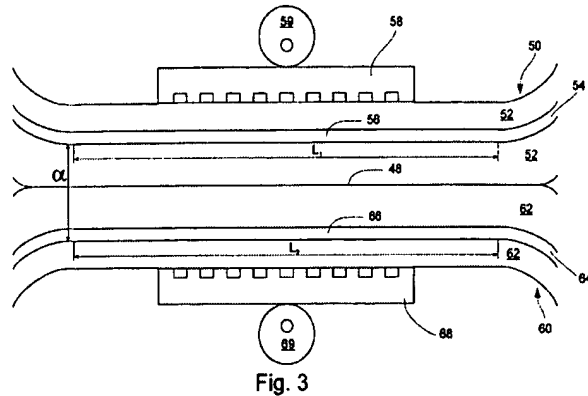


Fig. 3

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epworth (US 4,761,833).

Epworth reference discloses an optical device with all the limitations set forth in the claims except it does not teach the use of a planar optical waveguide. Specifically, Epworth reference discloses: an optical fiber having a core and a cladding for receiving a light input, the core capable of transmitting light in a core mode and the cladding having a first index of refraction and capable of transmitting light in a cladding mode (Fig. 5); an optical waveguide having a silicone cladding which has refractive index less than the first index of refraction (column 4 line 64- column 5 line 6); wherein the cladding of the optical fiber is positioned closely to the optical waveguide forming a coupling region between the cladding of the optical fiber and the optical waveguide such that the cladding mode transmitted in the cladding of the optical fiber excites a mode in the optical waveguide (Fig. 5); the optical fiber further comprising a grating for wavelength-selective coupling of light transmitted in the core mode by the core of the optical fiber into the cladding mode transmitted by the cladding of the optical fiber (column 5 lines 10-12).

However, the use of a planar waveguide for coupling optical signal is well known and common in the art. The use of planar optical waveguides may be advantageous and desirable over the prior art, because planar waveguides have rectangular cross sections that provide larger coupling area compared to circular cross section optical fibers. Larger coupling area may provide more efficient optical coupling with low coupling loss.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Epworth device to have a planar optical waveguide coupled to the optical fiber.

See “Response to Arguments” below for rebuttals to applicants’ arguments regarding the patentability of claims 21-22.

***Response to Arguments***

Claim 18:

Claim 18 contains newly added limitations. In response, Claim 18 is rejected under a newly cited prior art. Therefore, applicants’ argument regarding the patentability of claim 18 over the Farries reference (US 5,778,119) is moot.

Claims 21-22:

Claim 21 is now amended to recite “a planar optical waveguide.” It is argued that Epworth reference does not show a planar optical waveguide (page 10). In support of their argument, applicants submitted Exhibits A and B defining the term “planar optical waveguide.”

The examiner respectfully points out that although Epworth reference may not explicitly teach the use of a planar optical waveguide, the claimed limitations of claim 21-22 are obvious over Epworth in view of what is commonly known in the art. As discussed in the office action above, the use of a planar optical waveguide for coupling optical signals from optical fibers is well known in the art. Further, planar optical waveguides are interchangeably used with optical fibers. Even applicants’ own “Exhibit B” notes that “[planar optical waveguide’s] principle of operation is the same as that for optical fibers...” (Exhibit B- filed on Feb. 9, 2004) As discussed above, planar optical waveguides have rectangular cross section which advantageously provide larger coupling area for optical signal coupling and helps to reduce coupling loss. Since

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the planar waveguides and optical fibers have same principle of operation and planar waveguides provide advantages over the optical fibers, it would have been obvious to a person of ordinary skill in the art to modify Epworth device to use planar optical waveguides. Thus, the claim rejection based on 35 USC 103 is proper.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday - Thursday : 6:30am- 5:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak  
Examiner  
Art Unit 2874

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